

IN THE CLAIMS

1. (currently amended) A method of screening for therapeutic agents useful in the treatment of a disease ~~selected from the group comprised in a group of diseases~~ consisting of cardiovascular diseases, respiratory diseases, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, gastroenterological diseases, cancer, hematological diseases, muscle-skeleton diseases, neurological diseases and urological diseases in a mammal, comprising the steps of
 - i) contacting a test compound with a PRKG1 polypeptide, and
 - ii) ~~detecting detect~~ binding of said test compound to said PRKG1 polypeptide.
2. (currently amended) A method of screening for therapeutic agents useful in the treatment of a disease ~~selected from the group comprised in a group of diseases~~ consisting of cardiovascular diseases, respiratory diseases, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, gastroenterological diseases, cancer, hematological diseases, muscle-skeleton diseases, neurological diseases and urological diseases in a mammal, comprising the steps of
 - i) determining ~~the~~ activity of a PRKG1 polypeptide at a certain concentration of a test compound or in the absence of said test compound, and
 - ii) determining the activity of said polypeptide at a different concentration of said test compound.
3. (currently amended) A method of screening for therapeutic agents useful in the treatment of a disease ~~comprised in a group of diseases~~ consisting of cardiovascular diseases, respiratory diseases, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, gastroenterological diseases, cancer, hematological diseases, muscle-skeleton diseases, neurological diseases and urological diseases in a mammal, comprising the steps of

i) determining the activity of a PRKG1 polypeptide at a certain concentration of a test compound, and

ii) determining the activity of a PRKG1 polypeptide at the presence of a compound known to be a regulator of a PRKG1 polypeptide.

4. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the step of contacting is in or at the surface of a cell.

5. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the cell is *in vitro*.

6. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the step of contacting is in a cell-free system.

7. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the polypeptide is coupled to a detectable label.

8. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the compound is coupled to a detectable label.

9. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the test compound displaces a ligand which is first bound to the polypeptide.

10. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the polypeptide is attached to a solid support.

11. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the compound is attached to a solid support.

12. (currently amended) A method of screening for therapeutic agents useful in the treatment of a disease selected from the group comprised in a group of diseases consisting of cardiovascular diseases, respiratory diseases, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, gastroenterological diseases, cancer,

hematological diseases, muscle-skeleton diseases, neurological diseases and urological diseases in a mammal, comprising the steps of

- i) contacting a test compound with a PRKG1 polynucleotide, and
- ii) detecting detect binding of said test compound to said PRKG1 polynucleotide.

13. (original) The method of claim 12 wherein the nucleic acid molecule is RNA.

14. (original) The method of claim 12 wherein the contacting step is in or at the surface of a cell.

15. (original) The method of claim 12 wherein the contacting step is in a cell-free system.

16. (original) The method of claim 12 wherein polynucleotide is coupled to a detectable label.

17. (original) The method of claim 12 wherein the test compound is coupled to a detectable label.

18. (currently amended) A method of diagnosing a disease selected from the group comprised in a group of diseases consisting of cardiovascular diseases, respiratory diseases, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, gastroenterological diseases, cancer, hematological diseases, muscle-skeleton diseases, neurological diseases and urological diseases in a mammal comprising the steps of

- i) determining the amount of a PRKG1 polynucleotide in a sample taken from said mammal, and
- ii) determining the amount of PRKG1 polynucleotide in healthy and/or diseased mammals.

19-20. (canceled)

21. (currently amended) A pharmaceutical composition for the treatment of a disease
selected from the group comprised in a group of diseases consisting of cardiovascular diseases, respiratory diseases, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, gastroenterological diseases, cancer, hematological diseases, muscle-skeleton diseases, neurological diseases and urological diseases in a mammal, comprising a therapeutic agent which regulates the activity of a PRKG1 polypeptide, wherein said therapeutic agent is

- i) a small molecule,
- ii) an RNA molecule,
- iii) an antisense oligonucleotide,
- iv) a polypeptide,
- v) an antibody, or
- vi) a ribozyme.

22. (currently amended) A pharmaceutical composition for the treatment of a disease
selected from the group comprised in a group of diseases consisting of cardiovascular diseases, respiratory diseases, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, gastroenterological diseases, cancer, hematological diseases, muscle-skeleton diseases, neurological diseases and urological diseases in a mammal, comprising a PRKG1 polynucleotide.

23. (currently amended) A pharmaceutical composition for the treatment of a disease
selected from the group comprised in a group of diseases consisting of cardiovascular diseases, respiratory diseases, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, gastroenterological diseases, cancer, hematological diseases, muscle-skeleton diseases, neurological diseases and urological diseases in a mammal, comprising a PRKG1 polypeptide.

24-26. (canceled)